

A new species and a new synonym of *Anthrenus* Geoffroy, 1762 (Coleoptera: Dermestidae: Anthrenini) from Palaearctic region

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Taxonomy, new species, new synonym, Coleoptera, Dermestidae, *Anthrenus*, Palaearctic region

Abstract. A new species *Anthrenus (Anthrenus) indicus* sp. n. (India: Himachal Pradesh) is described, illustrated and compared with similar species. A new synonymy is proposed: *Anthrenus (Nathrenus) pubifer* Reitter, 1899 (= *Anthrenus assyrius* Zhanatiev, 2006 syn. n.).

INTRODUCTION

In former studies on Nearctic and Palaearctic *Anthrenus* (s. str.) Geoffroy, 1762 the present authors distinguished three informal groups: *lepidus*, *pimpinellae* and *scrophulariae* comprising different beetle taxa.

The distinction of the mentioned above groups was made on the base of the dorsal patterns (Beal 1998).

The *pimpinellae*-group is the biggest and comprises currently 17 described species. Many specimens are still undescribed with unclear taxonomical status and need detailed morpho-anatomical analysis, which could be helpful to solve the problem with *pimpinellae*-group. Today it is considered that previously distinguished variations and abbreviations differ from each other in the pattern on pronotum and elytra. However, a fact should be stressed, that even primary analysis shows such modifications to be very small.

Authors collected main part of specimens who belong to *pimpinellae*-group. This almost complete material permits to provide a reversionary study for those taxa.

In our study the detailed analysis for a new species within *pimpinellae*-group is given. This paper is a continuation of earlier study on morphological variability of *pimpinellae*-group (Kadej 2005), includes description of new species within *pimpinellae*-group with comparative analysis of related species.

A new synonym is proposed from other subgenus.

MEASUREMENTS AND METHODS

Explanation of abbreviations:

- CSUC C. P. Gillette Museum of Arthropod Diversity, Colorado State University, Fort Collins, Colorado, USA.
- EUMJ Ehime University, College of Agriculture, Matsuyama, Japan.
- FMNH Field Museum of Natural History, Illinois, Chicago, USA.
- HNHM Hungarian Natural History Museum, Budapest, Hungary.
- JHAC Jiří Háva, Private Entomological Laboratory and Collection, Prague-west, Czech Republic.
- MiZ Muzeum i Institut Zoologii PAN, Warszawa, Poland.
- MK Marcin Kadej, Institute of Zoology, Department of Biodiversity and Evolutionary Taxonomy, Wrocław, Poland.
- SMNS Staatliches Museum für Naturkunde, Stuttgart, Germany.
- ZMUH Zoological Museum, University of Helsinki, Finland.
- AFL antennal fossa length (measured along the antennal fossa).
- BL body length (measured from the head anterior margin to the apex of the elytra).
- BW body width (measured between two anterolateral humeral calli).
- LMP length of lateral margin of pronotum (measured as a distance between inferior part of pronotum and exterior angle).
- PL pronotum length (measured from the top of the anterior margin to scutellum).
- PW pronotum width (measured between the two posterior angles of pronotum).
- SL sternites length (measured from the anterior margin to the apex of posterior margin).
- SW sternites width (measured between two lateral margins in the anterior part of sternites).

All measurements are given in mm. The morphological structures were observed under phase contrast microscope Nikon Eclipse E 600 with drawing attachment in transparent light in glycerol. All morphological structures were put into plastic micro vials with glycerol under proper specimens. Photos were taken with the camera Nikon Coolpix 4500.

Locality labels are cited in the original version. Separate labels are indicated by slashes (/). Remarks of the authors are found in square brackets [].

RESULTS

Anthrenus (Anthrenus) latefasciatus Reitter, 1892

(Figs 2, 7-9, 18-22)

Anthrenus pimpinellae var. *latefasciatus* Reitter, 1892: 134.

Anthrenus latefasciatus: Kalík & Ohbayashi, 1985: 75.

Anthrenus latefasciatus: Háva, 2003: 81.

Type material. Holotype (♀): „Margelan Reitter“ / Holotypus *Anthrenus pimpinellae* v. *latefasciatus* Reitter 1892 [label with red frame] / *pimpinellae latefasciatus* m. [label with hand writing] / coll. Reitter/ Syntypus no 1 V. Kalík det. 1985 / *Anthrenus* sp? V. Kalík det. 19. Paratype (♂): Margelan Reitter [label with red frame] / Paratypus *Anthrenus pimpinellae* v. *latefasciatus* Reitter 1892 [label with hand writing] / *pimpinellae latefasciatus* m. / coll. Reitter / Syntypus no 2 V. Kalík det. 1985 / *Anthrenus latefasciatus* Rtt. V. Kalík det. 1985/

Lectotypus [label with red frame]. Type material deposited in (HNHM).

Other material studied. Total number of examined specimens from central Asia 70.

***Anthrenus (Anthrenus) nipponensis* Kalík & Ohbayashi, 1985**

(Figs 3, 10-12, 23-27)

Anthrenus nipponensis Kalík & Ohbayashi, 1985: 77.

Anthrenus nipponensis: Háva, 2003: 82.

Type material. (2 Paratypes): „Miura - City, 30.v.1973, N. Ohbayashi“ / „Paratype *Anthrenus* (s. str.) *nipponensis* Kalík et Ohbayashi 1985“. Material deposited in (1 JHAC, 1 MK).

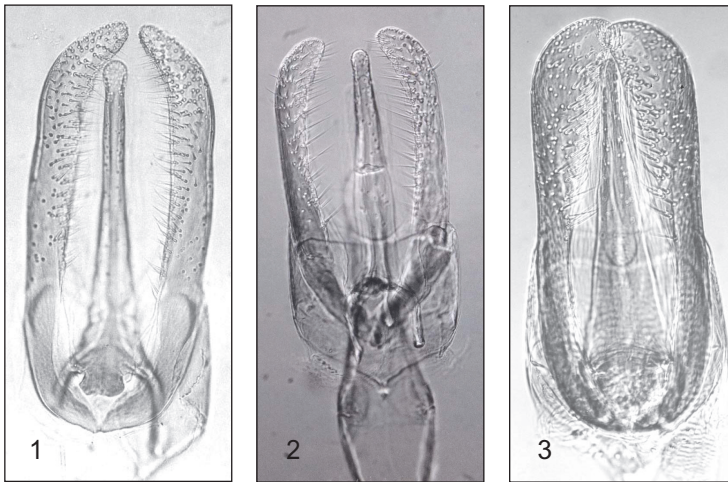
Other material studied. Korea, Phjongjang hortus, Maran, 29.v.1965, M. Mroczkowski et A. Riedel leg., 3 ex., (MilZ); Korea, M. Mroczkowski et A. Riedel leg. / Hamhung, 11.vi.1965, 1 ex., (MilZ); Japonia, Ikenobe, Hirai-cho kit-gum Kagawa Pref. Sikoku, 20.v.1954, leg. M. Chûjô, 1 ex., (MilZ); NE China, Thru, 1954, R. D. Zhantiev, 1 ex., (CSUC); China, Chefoo, viii.1906, 4 ex., (FMNH); Korea, Mai Hoa Vang, 1ex., (JHAC); [China] Shanghai, v-vi.1904 / Frau Dr. Knappe, Shanghai, 1 ex., (JHAC).

***Anthrenus (Anthrenus) indicus* sp. n.**

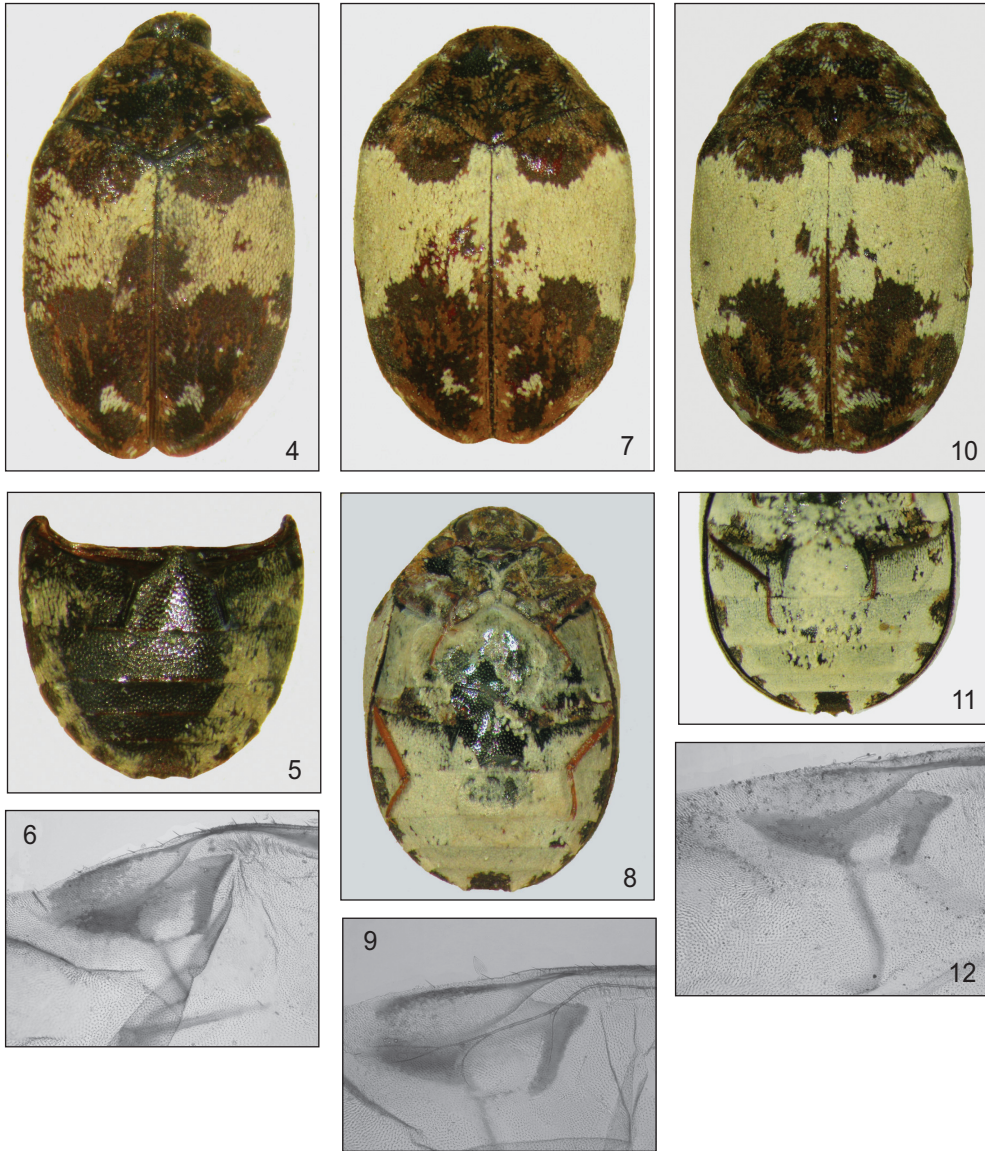
(Figs 1, 4-6, 13-17)

Type material. Holotype (♂): „Oesterr. Karakorum:“ [N India, Himachal Pradesh] / „*Anthrenus indicus* m. V. Kalík det.“. Paratype (1 ♀): the same data as holotype. Type material deposited in (SMNS). Type specimens provided with red, printed label: “Holotype [or Paratype, respectively] *Anthrenus (Anthrenus) indicus* sp. n., J. Háva, M. Kadej & V. Kalík det. 2006 [red, printed].

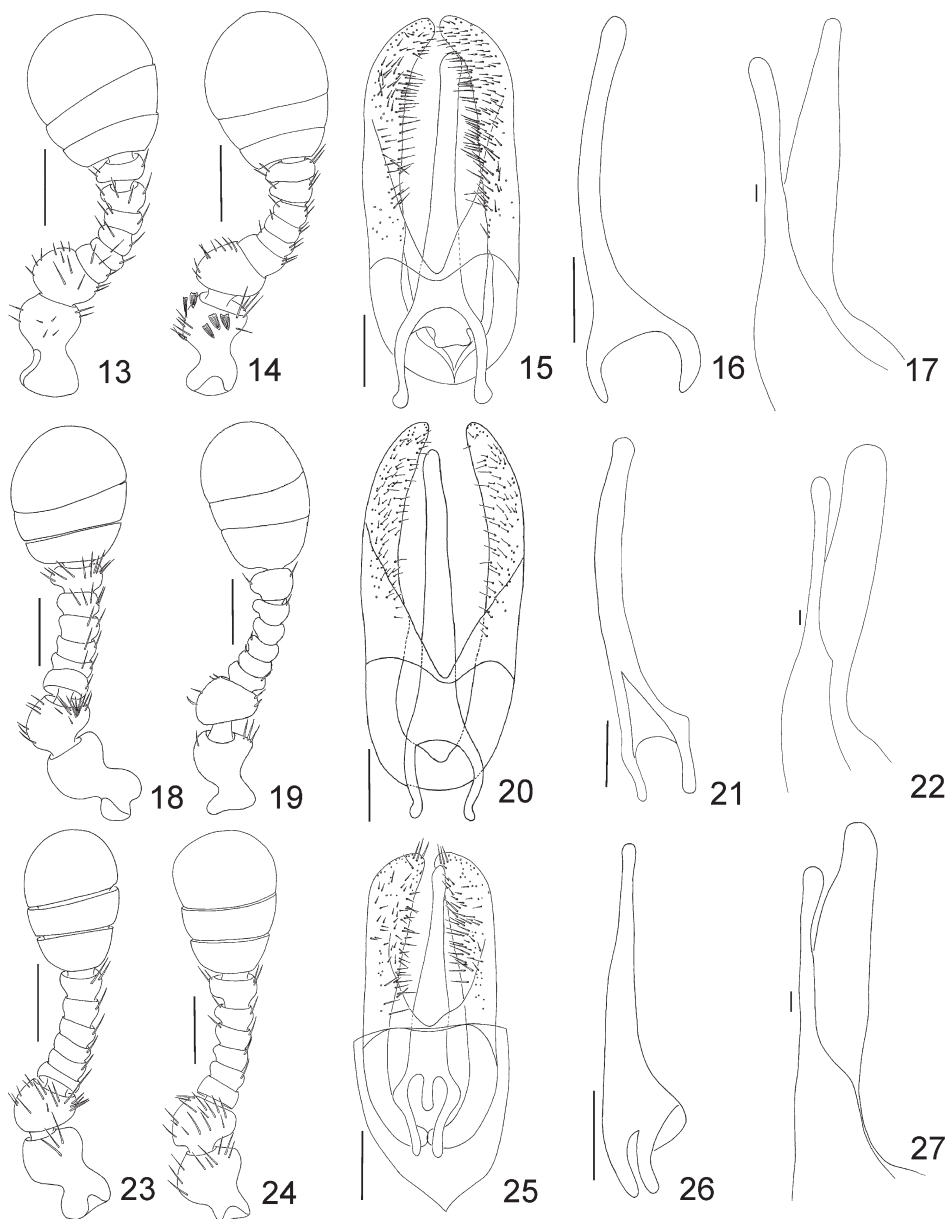
Description. Body strongly convex, covered with scales (BL: 3.0-3.1; BW: 1.75-1.9) (Fig. 4).



Figs. 1-3. Genitalia:
1- *Anthrenus indicus* sp. n.;
2- *A. latefasciatus* Reitter, 1892;
3- *A. nipponensis* Kalík & Ohbayashi, 1985.



Figs 4-12. *Anthrenus indicus* sp. n.: 4- habitus; 5- abdominal sternites; 6- wing; *A. latefasciatus* Reitter, 1892: 7- habitus; 8- abdominal sternites; 9- wing; *A. nipponensis* Kalik & Ohbayashi, 1985: 10- habitus; 11- abdominal sternites; 12- wing.



Figs 13-27. *Anthrenus indicus* sp. n.: 13- male antenna; 14- female antenna; 15- genitalia; 16- median lobe (lateral view); 17- galea and lacinia; *A. latefasciatus* Reitter, 1892: 18- male antenna; 19- female antenna; 20- genitalia; 21- median lobe (lateral view); 22- galea and lacinia; *A. nipponensis* Kalik & Ohbayashi, 1985: 23- male antenna; 24- female antenna; 25- genitalia; 26- median lobe (lateral view); 27- galea and lacinia. Scale bar figs 13-16, 18-21, 23-26: 0.1 mm; figs 17, 22, 27: 0.01 mm.

Head with big convex eyes. Frons with pseudoocelli, covered with brown scales. Antenna of both sexes brown, 11- segmented, antennal club 3- segmented, compact (Figs 13-14), covered densely with light-brown pubescence. Terminal segment cylindrical, covered densely with light-brown pubescence. Antenna occupies the whole cavity of antennal fossa. Antennal fossa completely open (AFL: 0.25) along lateral margin of the pronotum (LMP: 0.5-0.65). Galea and lacinia as in Fig. 17.

Dorsal and ventral surface of integument dark brown, slightly punctuated, covered with dark brown, brown, white and black scales. Scales on the dorsum create an exclusive pattern composed of black, white and orange patches. Pronotum (PL: 0.75; PW: 1.5), covered with black scales in the central part, brown scales on the angles and lateral parts.

Elytra covered with white, dark brown and orange scales. White scales create wide, transverse band, deeply cut near the suture.

Ventral surface with grey scales except for abdominal sternites, which are covered with grey and dark brown (almost black) scales - especially anterolateral parts of the sternites I-V and in the centre of sternite V small black spots (SL: 1.5-1.65; SW: 1.6-1.9) (Fig. 5).

Legs brown, covered with grey scales on dorsal surface. Tarsus with two slightly curved tarsal claws. Male genitalia as in Fig. 15. Parameres broad, covered with numerous setae. Median lobe wide posteriorly, slightly curved with the apex erect (Figs 1, 15-16).

Wing as in Fig. 6.

Differential diagnosis. New species very similar to *A. (A.) latefasciatus* Reitter, 1892 and *A. (A.) nipponensis* Kalik & Ohbayashi, 1985 but differs from them by the characters in the following table.

	<i>A. (A.) latefasciatus</i> Reitter, 1892	<i>A. (A.) nipponensis</i> Kalik & Ohbayashi, 1985	<i>A. (A.) indicus</i> sp. n.
galea with lacinia	apex of the galea rounded, lacinia with gentle incision of lateral margin (Fig. 22)	apex of the galea rounded, lacinia with sharp incision of lateral margin (Fig. 27)	apex of the galea conical, lacinia without incision of lateral margin (Fig. 17)
elytral patterns (length of transvers, create by white scales band)	relatively long, extending more than one-half the length of elytra (Fig. 7)	relatively long, extending more than one-half the length of elytra (Fig. 10)	relatively short, extending less than one-half the length of elytra, with deep indentation near the suture, (Fig. 4)
genitalia (shape of parameres and median lobe)	parameres thin, aedeagus slightly bent (Figs 2, 20, 21)	parameres broad, aedeagus erect (Figs 3, 25, 26)	shape and width of parameres oblique between <i>A. latefasciatus</i> and <i>A. nipponensis</i> (Figs 1, 15, 16)
distribution	Afghanistan; Caucasus; N China; Iran; Kazakhstan; N Korea; Kyrgyzstan; Mandzhuria; Mongolia; Syria; Tadzhikistan; Turkmenistan; Uzbekistan	N China; Japan; N Korea; Russia; Kitay	India: Himachal Pradesh

Name derivation. Named according to the type locality.

NOMENCLATURE

Anthrenus (Nathrenus) pubifer Reitter, 1899

Anthrenus pubifer Reitter, 1899: 217.

Anthrenus pubifer var. *akbesianus* Reitter, 1899: 217.

Anthrenus assyrius Zhantiev, 2006: 97 **syn. n.**

Type material. Holotype (♂): Iraq, Dahuk, Shykh Addi, 11.v.1981, R. Linavuori lgt. Holotype deposited in (ZMUH).

Remarks. The species *A. (N.) assyricus* Zhantiev, 2006 is recently described from Iraq. Zhantiev's differential diagnosis comprises only two similar species *A. (N.) transcaspicus* Mroczkowski, 1960 and *A. (N.) jakli* Háva, 2001, but not next very similar species *A. (N.) pubifer* Reitter, 1899. All morphological characters of both species *A. (N.) assyricus* and *A. (N.) pubifer* are identical. *A. (N.) assyricus* Zhantiev is a junior synonym of *A. (N.) pubifer* Reitter.

Distribution. Species known from Turkey, Iran, Syria and newly from Iraq.

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